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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,670	08/29/2003	Ralph M. Trksak	3047.FDI	9307

35157 7590 06/28/2007
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EXAMINER

MAHAFKEY, KELLY J

ART UNIT	PAPER NUMBER
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1761

MAIL DATE	DELIVERY MODE
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06/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/651,670

Applicant(s)

TRKSAK ET AL.

Examiner

Kelly Mahafkey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/29/03 & 1/21/05.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 11 recite "a viscosity of about 400 Brabender Units to about 1000 Brabender Units". This phrase, however, is indefinite as factors, such as time and temperature, which Brabender viscosity depends on are not identified.

Claim 10 recites, "a sago starch... having a gel strength at least 100% greater than a comparable cornstarch." It is unclear as to how a starch product has a gel strength.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 8, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanchett et al (US 2002/0102344 A1).

Hanchett teaches of a cold-water dispersible modified sago starch prepared by converting with hydrogen peroxide, inhibiting thermally or through crosslinking, pregelatinizing by drum drying, and grinding (Abstract and paragraphs 0012-0017 and 0020-022). Hanchett teaches that the starch can be used with food products and typically forms a gel at about 100% stronger than other starched based gels, including a corn starch based gel (paragraphs 0024, 0028, and 0029). Hanchett teaches that the

starch has a viscosity of about 0-2600 Brabender units (Figure 4). Hanchett teaches that the starch has a Brabender Viscosity Differential (BVD), measured between about 80C and about 90C of about 15 BVD (Figure 4).

Specifically regarding the sago starch as capable of forming a gel having a gel strength of at least 30 grams within 5 hours from preparation, as recited in claim 8, Hanchett does not explicitly teach that the starch as capable of forming a gel having a gel strength of at least 30 grams within 5 hours from preparation, however, since the sago starch product as taught by Hanchett is produced by a substantially identical process as the product recited in the instantly claimed product by process, it reasonably appears to be identical or only slightly different than the instantly claimed product. Thus, the starch as taught by Hanchett would be inherently capable of forming a gel having a gel strength of at least 30 grams within 5 hours from preparation absent any clear and convincing arguments and/or evidence to the contrary.

Specifically regarding the sago starch as having a gel strength at least 100% greater than a comparable cornstarch having a viscosity of about 400-1000BU when both the sago starch and the cornstarch are evaluated for gel strength at 6% solids content, as recited in claim 10, Hanchett teaches that the starch typically forms a gel at about 100% stronger, most particularly 250% stronger than other starched based gels, including a corn starch based gel (paragraphs 0024, 0028, and 0029). Hanchett teaches that the starch has a viscosity of about 0-2600 Brabender units (Figure 4). Hanchett teaches the gel strength at a solids level of 10% and 15%, however, does not explicitly teach the gel strength at a solids level of 6% as recited in claim 10. In Figures 1 (gel strength at 10% solids) and 2 (gel strength at 15% solids), Hanchett teaches that the lower the solids content, the greater the percentage difference in strength between the sago starch and cornstarch based gels, wherein the sago starch gel has a greater strength than the cornstarch gel. Thus, since as taught by Hanchett, the difference in strength between the sago starch and cornstarch based gels is measured at 10% and 15% solids and the sago starch gel is typically 100% stronger than the cornstarch based gel, one of ordinary skill in the art at the time the invention was made would also expect

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the sago starch gel at 6% solids to be at least 100% stronger than a similar cornstarch based gel, absent any clear and convincing arguments and/or evidence to the contrary.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13, 15, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanchett et al (US 2002/0102344 A1).

Hanchett teaches of a cold-water dispersible modified sago starch prepared by converting with hydrogen peroxide, inhibiting thermally or through crosslinking, pregelatinizing by drum drying, and grinding (Abstract and paragraphs 0012-0017 and 0020-022). Hanchett teaches that the starch can be used with food products and typically forms a gel at about 100% stronger than other starched based gels, including a corn starch based gel (paragraphs 0024, 0028, and 0029). Hanchett teaches that the starch has a viscosity of about 0-2600 Brabender units (Figure 4). Hanchett teaches that the starch has a Brabender Viscosity Differential (BVD), measured between about 80C and about 90C of about 15 BVD (Figure 4).

Specifically regarding the starch as capable of forming a gel having a gel strength of at least 30 grams within 5 hours from preparation, as recited in claim 8, Hanchett does not explicitly teach that the starch as capable of forming a gel having a gel strength of at least 30 grams within 5 hours from preparation, however, since the product as taught by Hanchett is produced by a substantially identical process as the product as recited in the instantly claimed product by process, it reasonably appears to be identical or only slightly different than the instantly claimed product. Thus, the starch as taught by Hanchett would be inherently capable of forming a gel having a gel

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strength of at least 30 grams within 5 hours from preparation absent any clear and convincing arguments and/or evidence to the contrary.

Specifically regarding bleaching the starch as recited in claim 24, hydrogen peroxide was a known bleaching agent at the time the invention was made. Thus, Hanchett teaches that the starch is bleached by teaching that hydrogen peroxide is applied to the starch.

Specifically regarding the BVD of the starch as measured at a 7% solids level as recited in claim 11, Hanchett teaches of the Brabender viscosity at a solids level of 20%, however is silent to the Brabender viscosity of the starch at a solids level of 7%. Since the process as taught by Hanchett is produced by a substantially identical process as instantly claimed, it is reasonable to expect the product produced to be identical or only slightly different than the instantly claimed product. It would not have imparted a patentable distinction to the claims for the starch viscosity to be measured with a different solids content absent any clear and convincing arguments and/or evidence to the contrary. Furthermore, while one of ordinary skill in the art would expect the viscosity of a starch based gel composition to change with the solids content, one of ordinary skill in the art would not expect the viscosity differential to change significantly. The BVD is a ratio of viscosities at different temperatures of the same of the solid content starch slurry. Thus, regardless of the solids content of the starch slurry, because the same sago starch is being used, one would expect the BVD to be substantially the same absent any clear and convincing arguments and/or evidence to the contrary.

Claims 3-7 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanchett et al (US 2002/0102344 A1) in view of Fennema ed. (Food Chemistry, 3rd Edition).

Hanchett teaches of a cold-water dispersible modified sago starch that is inhibited through crosslinking as discussed above. Hanchett teaches that the starch can be treated with cross-linking, however, is silent to the process of doing so. Fennema teaches that modified food starches are crosslinked with phosphoryl chloride

(i.e. phosphorous oxychloride). Fennema teaches that the crosslinking agent is applied in an amount depending on the desired starch dispersibility and tolerance to physical conditions. Fennema teaches that the crosslinking agent can be applied in amount as little as 0.0025% and as great as 0.08%. Refer specifically to page 203.

Regarding a specific amount of a crosslinking agent and a specific crosslinking agent as recited in claims 3-7 and 16-20, Fennema teaches that crosslinking for food starches is preformed with 0.0025-0.08% phosphoryl chloride (i.e. phosphorous oxychloride). Since Hanchett teaches of crosslinking, but does not teach a method for doing so, one of ordinary skill in the art, at the time the invention was made, would have been motivated to look to the art, such as Fennema, for the method of crosslinking food starch. Thus, one of ordinary skill in the art would have been motivated to use 0.0025-0.08% phosphoryl chloride (i.e. phosphorous oxychloride) to crosslink the starch as taught by Hanchett.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanchett et al (US 2002/0102344 A1) in view of Saowakon et al. (Suitability of sago starch as a base for dual-modification).

Hanchett teaches of a cold-water dispersible modified sago starch that is ground as starting product, as discussed above. Hanchett, however, is silent to the size of the ground starch, as recited in claim 14. Saowakon teaches that the typical average size of native sago starch granules is 25 μm (Table 2), which would pass through a size 200 mesh (i.e. a mesh size of 74 μm). Because Hanchett teaches of granular sago starch, but does not teach of the size of the granular sago starch, one would have been motivated to look to the art, such as Saowakon, to determine the size of the granular starch as taught by Hanchett. Thus, one of ordinary skill in the art at the time the invention was made would have been motivated to grind the sago starch to a size of 25 μm as taught by Saowakon, which would pass through a size 200 mesh (i.e. a mesh of size 74 μm), as instantly claimed.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Mahafkey whose telephone number is (571) 272-2739. The examiner can normally be reached on Monday through Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kelly Mahafkey
Examiner
Art Unit 1761



KEITH HENDRICKS
PRIMARY EXAMINER